BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of:	
Transition from TTY to Real-Time Text Technology.	CG Docket No. 16-145
Petition for Rulemaking To Update The Commission's Rules For Access to Support The transition From TTY To Real-Time Text Technology, And petition For Waiver Of Rules Requiring Support Of TTY Technology.	GN DOCKET NO. 15-178

COMMENTS OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION AND THE PEOPLE OF THE STATE OF CALIFORNIA

AROCLES AGUILAR
HELEN M. MICKIEWICZ
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-1319
Fax: (415) 703-4592
Email: hmm@cpuc.ca.gov

Attorneys for the California
Public Utilities Commission

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The California Public Utilities Commission submits these comments in response to the *Notice of Proposed Rulemaking, Order* (*NPRM*), which the Federal Communications Commission (FCC or Commission) released on April 29, 2016. In the *NPRM*, the FCC proposes to "update its rules to facilitate a transition from text telephone (TTY) to a reliable and interoperable means of providing real-time (RTT) communication over Internet Protocol (IP) enabled network and services."[1] More specifically, the FCC is proposing to replace its current rules affecting obligations of wireless service providers and equipment manufacturers with rules that would define the obligations of these same entities to support RTT over IP-based wireless voice services.

The CPUC here provides information to the FCC about the provision of TTY services and equipment in California as part of the CPUC's Deaf and Disabled Telecommunications Program (DDTP). The CPUC also identifies and addresses jurisdictional issues that are implicated by the FCC's proposal.

The CPUC comments here on many, but not all, of the issues raised in the *NPRM*. Silence on any issue should not be construed either as support or opposition to the FCC's proposal(s).

I. TRANSITION FROM TEXT TELEPHONE (TTY) TO REAL-TIME TEXT (RTT) TECHNOLOGY

As the Commission notes, Text Telephone (TTY) technology was developed more than fifty years ago as a means of enabling people who are deaf, hard-of-hearing, and

[1] *In the Matter of Transition from TTY to Real-Time Text Technology, Petition for Rulemaking to update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology,* (*NPRM)*; CG Docket No. 16-145; GN Docket No. 15-178 (FCC 16-53), rel: April 29, 2016. ¶ 1.

speech-disabled to use the legacy Public Switched Telephone Network (PSTN).[2] RTT is a newer methodology of text transmission that is compatible with Internet Protocol (IP) enabled networks. The FCC's proposals would replace existing requirements mandating support for TTY technology with rules for wireless IP-based voice services to support RTT technology instead.

The FCC seeks to ensure that people who are deaf, hard-of-hearing, speech-disabled, and deaf-blind can fully utilize and benefit from twenty-first century communications technologies as the United States migrates from legacy circuit-switched to IP-based telecommunications networks and services.[3] Although primarily addressing issues pertaining to wireless service and equipment, in the *NPRM* the FCC also seeks input on how TTY legacy analog relay service and equipment would be affected by a similar transition to RTT that would be offered on IP based facilities.[4]

Analog-based TTY equipment was designed to work on circuit-switched telephone systems. TTYs can work, to some degree, on existing IP-based systems; however the problems caused by CODEC conversion (packet loss and multiple trunking providers) make the operation of TTYs highly unreliable with IP facilities. Users experience garbling, dropped calls, missed characters, connection problems, and a host of other problems. This incompatibility of TTYs and IP-based facilities creates more than mere inconvenience for TTY users – rather, the TTYs frequently are simply unusable.

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[2] *NPRM*, ¶ 11.

[3] *NPRM*, Appendix C, ¶ A.2.

[4] *NPRM*, Appendix C, ¶ A.3.

The FCC acknowledges the challenges of continued TTY use on IP-based communications networks and platforms. These difficulties include compression techniques that distort TTY tones, and echos or other noises that result from the transmission of the Baudot character string. As these problems occur, the natural synchronization of a conversation disappears and the ability to communicate is significantly degraded. Even more significantly, the incompatibilities described here can result in ineffective communication in an emergency, when effective communication is critical, thus creating a dangerous situation for TTY users. Other limiting factors of TTY use include slow transmission speed, dependency on users having to take turns to communicate, use of significant network bandwidth, and limited character set (which can make communicating some information, such as email and web addresses, difficult or impossible).[5]

The FCC also recognizes that the limitations of TTY technology have resulted in a steady decline nationally in TTY use in favor of other forms of text communication that offer greater ease of use, improved features, and practicability.[6] This is similar to the trend seen by the CPUC which has observed a decline in the number of TTY calls completed each month. Three years ago, California experienced an average of 14,000 TTY completed calls per month; but in the past 6 months, the average of completed calls has decreased to 11,900 per month.

[5] *NPRM*, ¶ 11.

[6] *NPRM,* ¶ 12.

Reports by the Interstate Telecommunications Relay Services (TRS) also confirm decreasing use of TTYs. Over the past 7 ½ years, monthly filings show a drop of nearly 80 percent in the number of minutes attributed to TTY-initiated relay calls.[7] TTY use is declining because consumers are opting to use applications that are native to the IP environment, such as short messaging services (SMS), instant messaging, email, IP Relay Service, and various social media applications.

II. FCC's PROPOSED POLICY CHANGES

The FCC "proposes to amend its rules to replace those governing the obligations of wireless providers and manufacturers to support TTY technology with rules defining the obligations of these entities to support RTT over IP-based wireless voice services."[8] The FCC tentatively concludes "that the technical and functional limitations of TTYs make this technology unsuitable as a long-term means to provide full and effective access to IP-based wireless telephone networks, and that there is a need to provide individuals who rely on text communication with a superior accessibility solution for the IP environment."[9] The FCC further tentatively concludes "that RTT can best achieve this goal because it can be well supported in the wireless IP environment, will facilitate emergency communications to 911 services, allows for more natural and simultaneous interactions on telephone calls, will largely eliminate the need to purchase specialized or

[7] *NPRM,* ¶ 12.

[8] *NPRM*, ¶ 15.

[9] *NPRM*, ¶ 15.

assistive devices that connect to mainstream technology, and may reduce reliance on telecommunications relay services".[10]

A. Phase-Out of Legacy TTY Analog Relay Service and Equipment

The FCC is asking for amendments to its rules to facilitate a transition from outdated text telephony (TTY) technology to a reliable and interoperable means of providing real-time text (RTT) communication over Internet Protocol (IP) enabled networks and services for people who are deaf, hard of hearing, speech disabled, and deaf-blind."[11] In addition, the Commission seeks comments "that service providers should be required to make their RTT services interoperable with TTY technology supported by circuit-switched networks, and when that requirement should sunset."[12]

The CPUC supports the FCC's proposed mandate for interoperability between TTY and RTT. The CPUC's Deaf and Disabled Telecommunications Program (DDTP) currently includes two communications devices that will need to be supported during the TTY-to-RTT transition: Text Telephone (TTY) and Captioned Telephone (CapTel). Although TTY use generally is declining, in California its use has remained fairly stable for the last two years. The DDTP reports over 1,000 estimated users per month, with current use about 97,000 minutes per month. Based on previous surveys, almost 70% of TRS users are over the age of 46.

[10] *NPRM*, ¶ 15.

[11] *NPRM,* Appendix C, ¶ A.2.

[12] *NPRM,* Appendix C, ¶ A.3.

The DDTP distributes the CapTel phone only as an analog model. Of the total active analog CapTel phones in California (estimated at 3000 units), 2400 units use a single line connection. When a user dials 911 using a CapTel phone, these 2,400 units convert to "voice carry over" (VCO) TTY, transmitting in Baudot Code from the 911 PSAP to the customer, with the customer replying by voice. Emergency services for these specific customers would be adversely affected by the TTY to RTT transition if the FCC does not mandate interoperability.

The use of CapTel telephones in the California program has decreased, with current use of about 187,500 minutes per month in April 2016, down from 330,358 minutes in April 2014. This decline reflects an approximate 43% decrease of analog CapTel during the past 2 years. As noted above, the ongoing conversion of analog lines to IP lines has caused TTY and CapTel phone (when connecting to 911 services) compatibility problems including dropped calls, connection problems, and garbling.

Current active TTY users are primarily an older population, living in low-income as well as some rural locations with primary access to analog telecommunications facilities. Ninety percent of CapTel users are over the age of 56, 79% are retired, and 16% are in the work force.

Interoperability of TTY with RTT would benefit older users, as well as those with low income, declining cognitive skills, or who are deaf/blind, as well as other vulnerable demographic groups. Further, continued interoperability of TTYs with RTT would benefit non-profit organizations, educational institutions, correctional facilities, small businesses, and other entities that still use the TTY technology. Many of these entities

face financial challenges on a regular basis, and lack the fiscal resources to keep up with technological changes. In addition, interoperability would address health and safety concerns by allowing vulnerable populations continued access to 911 emergency service centers through use of TTYs.

B. Potential Sunset Date for TTY Use

Because the number of existing TTY customers participating in the DDTP continues to decline, it seems unnecessary to set a "sunset" date for TTYs. The users who would be adversely affected are those who have used TTYs the longest, and are likely the least equipped to adapt to RTT. Over time, the number of users will diminish through attrition. Accordingly, The CPUC recommends that the RTT/TTY compatibility requirement not sunset as long as analog communications systems remain in use.

III. JURISDICTIONAL ISSUES

Although the FCC did not formally ask comment on jurisdictional issues, it is difficult to discuss transitioning TTY to RTT without mentioning jurisdiction, and the questions the FCC must confront and resolve as part of its oversight of this transition.

The move to RTT poses significant jurisdictional questions for the states generally and, in particular, for the CPUC. Because California's existing TTY program is analog-based, it falls squarely within the CPUC's jurisdiction over services that are not IP-based or that are purely intrastate. Public Utilities Code 710, however, mandates that the CPUC "shall not exercise regulatory jurisdiction or control over …. Internet Protocol enabled

services."[13] Section 710 contains certain exceptions, none of which apply to California's public programs, including the DDTP. The statute does provide for an exception for authority that is "required or expressly delegated by federal law."[14]

In addition, it is unclear how the FCC proposes to treat RTT. If the FCC determines that RTT is a purely interstate service, the CPUC would be barred from regulating it because the FCC has exclusive jurisdiction over interstate telecommunications services.[15] If the CPUC is barred from regulating RTT, then the DDTP's relay service program, as it is offered today, likely would have to be terminated at some point in the future.

Accordingly, the CPUC recommends that the FCC consider 1) not classifying RTT as a purely interstate service so that state relay programs, including California's, can continue, or 2) if classifying RTT as purely interstate, the FCC explicitly delegate authority to states to oversee provision of RTT at the state level, so as to enable state commissions to maintain an interface between consumers and service providers.

IV. CONCLUSION

The CPUC urges the FCC to adopt a mandate for interoperability between analog-based TTYs and RTT, so as to ensure that a diminishing number of users who are ill-equipped to transition to new technologies are not stranded without access to the

[13] PU Code § 710(a).

[14] PU Code § 710(a).

[15] This raises yet another question, whether the FCC would classify RTT as a "telecommunications" or an "information" service. We do not address that question here.

telecommunications network. In addition, the CPUC asks the FCC to acknowledge and address jurisdictional questions raised by the anticipated TTY-to-RTT transition.

Respectfully submitted,

AROCLES AGUILAR
HELEN M. MICKIEWICZ

By: /s/ HELEN M. MICKIEWICZ

Helen M. Mickiewicz

Attorneys for the
California Public Utilities Commission

505 Van Ness Avenue
San Francisco, California 94102
Phone: (415) 703-1319
Fax: (415) 703-4562
Email: hmm@cpuc.ca.gov

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